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## (54) MANUFACTURE OF PHOTOCOUPLER

### (57)Abstract:

PURPOSE: To enable functional elements where devices are integrated to be optically coupled together small in loss.

CONSTITUTION: An SiO<sub>2</sub> selective growth mask 413 is formed on the (100) plane of an InP semiconductor substrate 401. At this point, a mask gap stripe (light propagating direction of optical waveguide) is set in orientation to a [011] direction. Next, a clad layer 408 is selectively grown as thick as  $t_c$  through an epitaxial growth method. Furthermore, a core layer 409 is made to grow. After the selective growth mask 413 is removed, a clad layer 410 is formed on all the surface of the semiconductor substrate 401.

